

Friction Jewelling for Hamilton 987 and Similar Vintage Watches

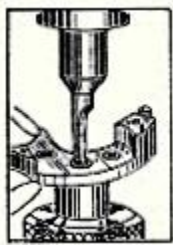
What's Friction Jewelling anyway?

Hamilton released its first 987 caliber wristwatch movement with beveled edges also known as bezeled or burnished-in jewels. This method held the jewels in with a screw-held ring. If you take a close look at the image on the left, then you can see two small screws holding a ring over each jewel. Hamilton released the next version of the 987 with friction jewels.

Manufacturing techniques for watch jewels improved sometime during the 1920's and Hamilton began using jewels able to hold their position with friction alone. This method cut down on time and effort to manufacture and service movements.




1. Select a jewelling stump with a hole larger than the jewel needing replacement. Place the stump in the die plate of your staking tool and center.



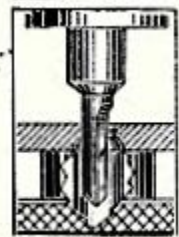
Friction Jewelling	Used with Jewelling Reamers		
	No.	Hole Dia.	No.
13-F	3.05	17-F	1.48
14-F	2.05	19-F	1.15
16-F	1.77	20-F	.85

2. Select a pusher smaller than the jewel needing replacement. Place the pusher in its holder and secure it in the frame sleeve.

FRICITION JEWEL PUSHER 



3. With the exception of Balance Jewels, use the pusher to adjust the micrometer. For example, place a watch bridge on the stump facing up. Rest the pusher on the old jewel and adjust your micrometer to limit the movement of the pusher. Jot down the setting on a piece of paper and use it when setting the depth for the replacement jewel.



4. Lower the micrometer stop and press on the old jewel to remove it.
5. If you have friction type jewel with an undamaged hole, skip the next two steps.

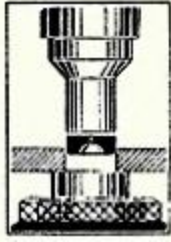


6. If you need to refinish the hole, pick out one of the reamers. Make sure it is large than the existing hole.
7. You can now ream the jewel hole for your replacement jewel.

REAMER HOLDER AND REAMER 

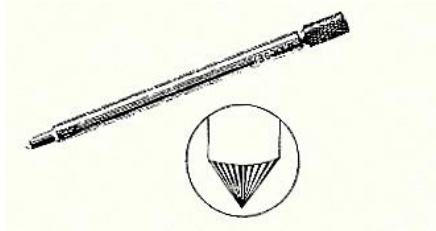


8. Again, use the holder for the reamer and place it through the staking frame's sleeve.
9. Don't let the reamer go further than a millimeter into the hole.



10. Turn it to create a smooth and appropriate size hole.

11. Use a cone miller to remove any burrs from the edges of the hole.



12. Now, you can place the jewel in the reamed out hole. Make sure the oil cup is face down.

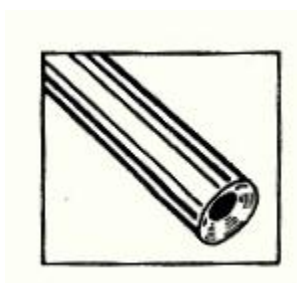
13. Use the pusher from step 2. Set the micrometer as you did in step 3.

14. Rest the pusher on the new jewel and then press down the jewelling lever on your frame. The micrometer will stop it from pushing the jewel past the proper fit.

15. Check to see if the watch part using the hole has a proper end-shake. You'll need to rely on whatever literature exists for your watch.

16. If you have to reset the jewel, adjust the micrometer stop and reset the jewel.

17. If friction type settings are loose in the plates or bridges of your watch, you'll need to tighten it by closing the hole.



18. Use a taper mouth closing punch. (K&D punches 31 through 38A. Moseley E1 through E9).

19. A taper mouth closing punch draws soft metal in and reduces the size of the jewel hole.

20. Select a punch slightly smaller than the setting.

21. Place the setting on a flat face stump, center it and tap the punch. You will see a groove that will help create a tight fit. Proceed at a slow pace, as this tightening process will incorporate trial and error.